



# County of Los Angeles CHIEF EXECUTIVE OFFICE

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MICHAEL D. ANTONOVICH  
Fifth District

February 11, 2010

To: Supervisor Gloria Molina, Chair  
Supervisor Mark Ridley-Thomas  
Supervisor Zev Yaroslavsky  
Supervisor Don Knabe  
Supervisor Michael D. Antonovich

From: William T Fujioka  
Chief Executive Officer

Gail Farber  
Director of Public Works

## BOARD MOTION OF DECEMBER 15, 2009, AGENDA ITEM NO. 48 HOLLYWOOD BOWL SHUTTLE BUSES – ALTERNATIVE FUELS REPORT

On December 15, 2009, your Board approved Supervisor Michael D. Antonovich's motion (copy attached) directing the Chief Executive Office (CEO) to report back to your Board on the feasibility of mandating that an increasing percentage of Hollywood Bowl shuttle buses use alternative fuels starting in 2011.

The CEO and the Department of Public Works (Public Works) are submitting the attached report regarding the potential use of alternative fuel buses for the Hollywood Bowl Park-and-Ride Program.

If you have any questions regarding this report, please contact us, or your staff may contact Wendy Bui, the Transit Manager at Public Works, at (626) 458-3968.

WTF:GF  
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Attachment

c: Executive Office, Board of Supervisors  
County Counsel

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**Hollywood Bowl Park-and-Ride Program Report  
Potential Use of Alternative Fuel Buses  
Board Motion of December 15, 2009 (Agenda Item No. 48)**

At the December 15, 2009, Board of Supervisors meeting, your Board requested that a report be prepared on the feasibility of mandating that an increasing percentage of Hollywood Bowl Shuttle buses use alternative fuels starting in 2011. The following is the requested report.

**Hollywood Bowl Park-and-Ride Program Overview**

The Hollywood Bowl is a historical venue, providing both cultural and recreational benefits to patrons at affordable prices with seats starting at \$1.00. This regional Park-and-Ride Program transports constituents, who live in various areas of the County of Los Angeles (County), from 14 distant lots to the Hollywood Bowl. Constituents throughout the County also use the shuttle service administered by the Los Angeles Philharmonic from four lots near the Hollywood Bowl. These services are a necessity as the Hollywood Bowl has a seating capacity of 17,500 seats with an on-site parking capacity of only 2,800 cars. During the 2009 season, the Park-and-Ride Program provided 3,800 trips using an average of 52 buses per event with as many as 115 buses for a sold out event. Without these two services transporting up to 37 percent of the attendees, traffic problems surrounding the Hollywood Bowl would be more severe.

**Federal Constraints on Contracting and Bus Usage for the Park-and-Ride Service**

In 2008, the Federal Transit Administration (FTA) established new guidelines for charter bus service which mandate that the transit agencies cannot contract with the County for the Park-and-Ride bus service until the County has exhausted the contracting possibilities provided by the small private bus companies for this service. As a result, the County began contracting more with the small private bus companies.

The transit agencies must follow the FTA requirement not to retire their federally funded buses until they are at least 12 years old. The small private bus companies are not fiscally able to buy new buses; therefore, they purchase the transit agencies' 12 to 15 year-old buses at auction or from a reseller.

**Feasibility of Mandating That an Increasing Percentage of Buses Use Alternative Fuels Starting in 2011**

Certified Natural Gas (CNG) buses were the first choice for transit agencies in California for alternative-fuel buses. Since the private bus companies purchase 12 to 15 year-old retired buses, CNG buses are currently the only option for alternative-fuel vehicles available for the private bus companies to buy. Even though retired CNG buses are beginning to become available, there are challenges to requiring alternative-fuel buses

for the Park-and-Ride service. Additionally, while CNG buses provide low emissions, the new 2010 clean diesel technology is another option to meet the United States Environmental Protection Agency's (EPA) emission standards for levels of oxides of nitrogen (NOx) and particulate matter (PM).

The following demonstrates some of these challenges:

- *CNG buses are very expensive to buy and upgrade.* Retired CNG buses vary in cost due to age, engine, and condition. After necessary CNG bus upgrades (e.g., new fuel tanks and engines), the CNG bus costs as much as four times more than an upgraded (e.g., emission retrofits) clean diesel bus. The 12 to 15 year-old CNG buses cost \$5,000 to \$10,000 at auction. A CNG engine replacement can cost \$35,000 to \$55,000. The fuel tanks in CNG buses must be replaced at 12 to 15 years at a minimum cost of \$30,000. This adds up to a cost of \$70,000 to \$95,000 per CNG bus without any other refurbishment costs.
- *The CNG buses are more expensive to maintain and operate.* All companies, except Cummins Corporation, have stopped production of the CNG engine. This will lead to the added expense of replacing the engine with the expensive Cummins engine because they are the only manufacturer of the CNG engine. There is additional labor and downtime to fuel every two days at a distant off-site fueling station. The current technology at some CNG fueling stations requires a 30-minute wait time between fueling buses to allow the pumping pressure to build up. Comparable clean diesel buses require fueling every five days; clean diesel fuel is readily available and does not require additional wait time between fueling buses.
- *There is a limited supply of good quality retired CNG transit buses.* The earliest CNG buses were built by Detroit Diesel and have had a history of maintenance problems. It was not until 2002 that Los Angeles County Metropolitan Transportation Authority (MTA) and Foothill Transit began purchasing a significant number of higher-quality CNG buses. These buses may start becoming available in 2014 or later, depending upon available funding for replacements.
- *Alternative fuel, such as CNG, is not available for motor coaches.* Each private bus company that we contract with uses 15 to 40 percent motor coaches to provide the service. Motor coaches weigh more and require larger engines with higher horsepower and torque than currently available from CNG engines. These motor coaches cannot be considered for alternative fuel.
- *Small private bus companies are questioning how the purchase of retired CNG buses may impact their businesses.* Only one contractor has been able to purchase a few retired CNG buses. Other contractors indicate the downturn in the economy prevents them from purchasing retired CNG buses. These bus companies are concerned with what the future holds for these buses due to inadequate and ever-changing technology; limited availability of trained

maintenance technicians; the reliability of the retired CNG buses; the cost to purchase, upgrade, and maintain these buses; and the inefficiencies in fueling the buses. Mandating that these companies replace their fleets with alternative-fuel buses, with the additional costs and unknown risks, could have serious impacts to the success of these small businesses.

- *Pass-through cost implications.* The cost of requiring the use of CNG buses would be passed on to the County. Bus rates have already increased significantly since the implementation of the new FTA regulations for charter bus service. Bus rates went up by an average of 20 percent when we moved from contracting with transit agencies to contracting with private bus companies. Once bus rates go up, they do not come down.
- *Other clean bus technologies are becoming available.* Transit agencies have started purchasing electric hybrid buses. These retired hybrid buses will become available in about 12 years. They are expected to cost less to maintain, operate, and fuel than the existing buses. In addition, the electric hybrid buses require no expensive infrastructure modifications as CNG buses do. They are projected to be the cleanest and most fuel-efficient, with the lowest lifetime vehicle cost.

### **Emissions Reductions Being Achieved by Contractors**

California Air Resources Board (CARB) and EPA regulate the emissions that apply to charter bus services, such as the Hollywood Bowl Park-and-Ride service. CARB has taken a proactive stand to clean the environment by recently enacting the nation's most stringent mandatory levels of NOx and PM with requirements that must be met at specific intervals between 2011 and 2023. These new standards were vigorously supported by all environmental agencies. All contractors must comply with the CARB regulations or face heavy penalties. They may also have their vehicle registrations placed on hold by the Department of Motor Vehicles. As a result, these private bus companies have been using clean diesel vehicles and are retrofitting their buses to reduce emissions.

The following demonstrates the viability of clean diesel:

- *Clean diesel buses are affordable to buy and upgrade.* The cost of a clean diesel bus at auction is about \$5,000. Upgrading a clean diesel bus by adding a Diesel Particulate Filter (DPF) retrofit ranges from \$12,000 to \$20,000 or more per bus, depending on the type of bus. This adds up to a cost of \$17,000 to \$25,000 per clean diesel bus without any other refurbishment costs.

- *Clean diesel buses can be retrofitted to further reduce emissions.* Clean diesel buses operate on Ultra Low Sulfur (ULS) diesel. Since October 2006, all diesel fuel sold in California has been ULS. When a ULS diesel engine is retrofitted with a DPF, toxic particulate emissions are reduced by 85 to 98 percent. Within the next five years, similar retrofit technology to reduce NOx emissions will be available that will bring the clean diesel buses closer to the equivalent emissions of the CNG buses.

## **Recommendation**

Due to the lack of sufficient alternative-fuel resources and infrastructure, the financial limitations of the small private bus companies, the downturn in the economy, and the constraints imposed by the FTA regulations regarding charter bus service and retiring buses, the efforts to achieve the goal of lowering emissions should not be limited to the use of only alternative-fuel buses. Instead, we recommend supporting and verifying compliance with the progressive standards set by CARB to lower emissions.

Clean diesel buses will have emissions very close to those of alternative-fuel fleets (and in a more cost-effective manner) by continuing to comply with CARB requirements for retrofits. Once the small private bus companies acquire the buses with the improved technology of the 2010 engines (when the transit agencies retire them), their buses will meet EPA emission standards, same as CNG buses. The stringent CARB regulations, the growing availability of improved technologies, and various alternative-fuel options as transit agencies retire their 12 year-old buses will result in the small charter bus companies' success at continuing to lower emissions.

## **Annual Report**

In the motion of December 15, 2009, Agenda Item No. 48, your Board requested an annual report that documents compliance with using clean diesel or alternative-fuel buses. The County will require each private contractor to submit their Statewide Heavy Duty Truck & Bus Fleet Calculator form from CARB and to provide certification of their submission to CARB. Public Works will use this proof of compliance to prepare a summary of compliance in the annual Hollywood Bowl Park-and-Ride and Shuttle Program Board letter.

As requested for the 2010 season, we have confirmed that the private bus companies who provide the Park-and-Ride service operate clean diesel buses and a few CNG buses. Foothill Transit uses CNG buses, and MTA uses clean diesel.

MOTION BY SUPERVISOR MICHAEL D. ANTONOVICH

DECEMBER 15, 2009

Agenda Item 48 on today's agenda is a recommendation that the Board of Supervisors is allocating \$728,000 in Proposition A Local Return Program funds. These funds would pay for park and ride and shuttle busses to and from the Hollywood Bowl. The total program cost of roughly \$2.1 million is offset by \$847,000 grant funding provided by Metro and fare box revenues.

Because the park and ride and shuttle busses are operated by several different vendors, including both municipally-operated bus lines and private contractors, it is unclear what type of fuel these buses utilize. Given the County's multi-faceted approach to clean energy, the Board should require that these shuttle busses utilize clean-burning fuels like clean diesel for the 2010 season. Additionally, the overall fleet of shuttle busses should, over time, increase the percentage of busses using alternative fuels such as compressed natural gas (CNG).

I, THEREFORE, MOVE that the Board of Supervisors direct the Chief Executive Officer to include provisions in the contracts for Hollywood Bowl shuttle busses which:

- Require that all vendors utilize busses that are powered by clean diesel or alternative fuels for the 2010 season;
- Report back to the Board of Supervisors by January 15, 2010 on the feasibility of mandating that an increasing percentage of Hollywood Bowl Shuttle busses use alternative fuels, starting in 2011.

I, FURTHER MOVE that the Board of Supervisors direct the Chief Executive Officer and the Director of the Department of Public Works to provide the Board with an annual written report that documents compliance with these measures.

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MOTION

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